

AMENDMENTS TO THE CLAIMS

We claim:

1. (Currently Amended) A process for regenerating a hydrogenation catalyst which is formed by an active composition, which has been applied to a nonporous, metallic support and which has been used in a gas-phase selective hydrogenation of acetylene in a C₂ fraction or of propyne and/or propadiene in a C₃ fraction which comprises comprising stripping at from 50 to 300°C with a substance or a substance mixture which under the process conditions has no oxidizing action and is present in the gaseous state. and wherein the hydrogenation catalyst is formed by an active composition, which has been applied to a nonporous, metallic support and which has been used in a gas-phase selective hydrogenation of acetylene in a C₂ fraction or of propyne and/or propadiene in a C₃ fraction.
2. (Currently Amended) A-The process as claimed in claim 1, wherein the metallic support is in the form of a woven mesh or knitted mesh.
3. (Currently Amended) A-The process as claimed in claim 1-or-2, wherein the substance or substance mixture which is used for stripping is selected from the group consisting of hydrogen, nitrogen, argon, and hydrocarbons, preferably saturated hydrocarbons, particularly preferably methane.
4. (Currently Amended) A-The process as claimed in claim 3, wherein nitrogen or a mixture of nitrogen and hydrogen is used for stripping.
5. (Currently Amended) A-The process as claimed in any of claimsclaim 1-to-4, wherein stripping is carried out at from 70 to 250°C, preferably from 100 to 150°C.
6. (Currently Amended) A-The process as claimed in any of claimsclaim 1-to-5, wherein the hydrogenation catalyst is rinsed with a preferably nonpolar organic solvent or solvent mixture in addition to stripping.
7. (Currently Amended) A-The process as claimed in claim 6, wherein rinsing is carried out at ambient temperature.

8. (Currently Amended) A-The process as claimed in claim 6 or 7, wherein rinsing is carried out for a period of from 15 minutes to a plurality of days.
9. (Currently Amended) A-The process as claimed in any of claims claim 6 to 8 carried out in situ, preferably in supernatant solvent and/or in solvent circulated by means of a pump.
10. (Currently Amended) A-The process as claimed in any of claims claim 6 to 8 carried out ex situ, preferably in supernatant solvent and/or in solvent circulated by means of a pump, preferably with additional sparging with gas and/or with the aid of ultrasound.
11. (Currently Amended) A-The process as claimed in any of claims claim 6 to 10, wherein the hydrogenation catalyst is firstly rinsed and subsequently stripped.
12. (Currently Amended) A-The process for the repeated regeneration of a hydrogenation catalyst, which comprises regenerating the hydrogenation catalyst two or more times by stripping as claimed in any of claims claim 1 to 5 or by rinsing and stripping as claimed in any of claims claim 6 to 11 and subsequently by oxidative treatment or a combination of stripping as claimed in any of claims claim 1 to 5 or rinsing and stripping as claimed in any of claims claim 6 to 11 and oxidative treatment.
13. (Currently Amended) A-The process as claimed in any of claims claim 1 to 12, wherein the hydrogenation catalyst is a thin-film catalyst.
14. (Currently Amended) A-The process as claimed in claim 13, wherein the hydrogenation catalyst is formed by an active composition comprising one or more hydrogenation-active metals, preferably palladium, particularly preferably silver-doped palladium.
15. (New) The process as claimed in claim 3, wherein the substance or substance mixture which is used for stripping are saturated hydrocarbons.
16. (New) The process as claimed in claim 15, wherein the saturated hydrocarbon is methane.

17. (New) The process as claimed in claim 5, wherein stripping is carried out at from 100 to 150°C.
18. (New) The process as claimed in claim 9, wherein the process is carried out in supernatant solvent and/or in solvent circulated by means of a pump.
19. (New) The process as claimed in claim 14, wherein the hydrogen active metal is palladium.
20. (New) The process as claimed in claim 19, wherein palladium is silver doped.